

# AMATEUR RADIO

MARCH

1951

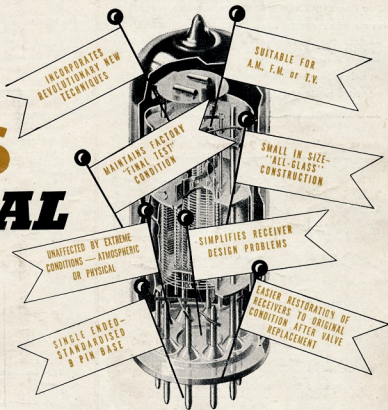
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# AMATEUR RADIO

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## EDITORIAL



### Are We Satisfied With What We Have?

"Success in life consists of getting what you want and being satisfied with it."—Sir Wm. Osler.

Can we assume today that we have what we want from our hobby and are satisfied with it? Can any one of us say we have achieved the ultimate in equipment; achieved the transmitter we always wanted; the layout of our station as we always wanted it; the receiver, the aerial system, the hundred and one little "gadgets" and simple pieces of equipment which together makes the pursuit of our hobby so pleasant? It is considered that few of us have reached the stage of being satisfied with what we have, but—and it is a big "but"—we are always doing something about it from the technical aspect.

On the other hand, what of the Institute that has, for twenty-five years, fought our battles so that we could conduct our hobby under the conditions we do today? Are we satisfied that we have taken advantage of everything the Institute can give us? And if we are satisfied, are there not a lot of things we could do ourselves to assist others to reach the same stage of satisfaction?

It is considered there are! It is considered that with a hobby like ours, we could all help each other a lot more than we do. It is considered

that this Institute can give us a lot more than we have permitted it to give us.

Why don't we let it give us more? Why don't we help it to give us more? Why don't we take more interest in its activities—its meetings, its conventions, its technical facilities, its organised contests, its administration?

Why is it that a few will always do our work for us and we will stand by and let them? Why? Why? There are a thousand "why's" we could ask. But could we stop asking this question? Could we, instead, say we are doing this—we are doing that—we are doing something to assist the administration of the Institute? Could we, in the future, look back and say we did our "little bit" to assist our Institute, thereby helping others to reach the same stage of satisfaction we have ourselves apparently reached?

Can we say NOW that we are going to get together and support the Institute that has afforded our hobby so much? Can we take stock of ourselves and say we could set aside a little time to help our Institute, and in so doing, help ourselves and our fellow Amateur? Or . . .

Are we satisfied with what we have?

—FEDERAL EXECUTIVE.

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# Homecraft

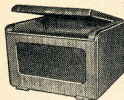
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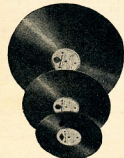
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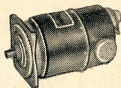
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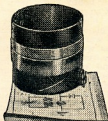
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# MOBILE MODULATOR

In July, 1950, issue of "Amateur Radio," the cathode follower system of driving zero bias 807s in Class B was described. The main advantage was the saving in current consumed in the driver, and the use of an ordinary Class A transformer.

Here is the circuit of a Mobile Modulator from "Ham News," July-Aug., 1950, using this principle, which is capable of giving nearly 10 watts of audio, and using the cathode follower driver, but without the driver transformer.

This modulator was designed to modulate a final running at 300 volts and 60 Ma., with both modulator and r.f. section fed from a 300 volt 100 Ma. vibrator supply, operating from a 6 volt car battery.

This unit should prove ideal for that Emergency Rig as it is possible to build it in a 4" x 5" x 6" cabinet.

As can be seen above, the average plate current available for the modulator is 40 Ma., if the complete Emergency Rig is to operate from a 100 Ma. vibrator supply and the r.f. stage consumes 60 Ma. of that total.

In typical Amateur practice, where push-pull Class AB 6V6 tubes are used as modulators, this figure of 40 Ma. would barely provide static current for one of the modulator tubes. Also, considering, normal output transformer efficiencies, this 6V6 type of set-up would be hard pressed to provide 10 watts of audio output.

Other experimenters, striving for a low-drain modulator design, have gone to Class B modulators, realizing that this type of operation gives the lowest static current possible. (For a given peak audio power output the peak d.c. plate current to the modulator stage is relatively fixed, regardless of the type of operation. However, when considering speech waveforms, this peak value of plate current is of secondary importance; the average value of d.c. plate current is relatively low compared to the peak value.)

For example, the 6N7 in Class B service is rated at about ten watts output, and the average plate current required is in the order of 35 to 40 Ma. The driver required for this 6N7 would usually consume another 10 to 15 Ma. This arrangement is a considerable improvement over the Class AB 6V6 approach, but falls seriously short of our 40 Ma. average current objective.

The problem was, therefore, to achieve further economy in both the modulator stage and the driver. The ideal Class B tube for this service was found where it was least likely to be suspected—in the miniature tube line.

Strange as it seems, the 12AU7 will give a peak speech output of well over ten watts and, stranger still, at a distortion level well under that accom-

plished by a Class B operated 6N7, despite the fact that the 6N7 was originally designed for zero bias Class B operation.

The static (resting) current of the 12AU7 in Class B with 300 volts on the plate is approximately 15 Ma.

Further economies in both current and weight can be realized in the driver stage by employing a device already well known to readers of "A.R." By using a cathode coupled driver operated Class B no driver transformer is required and the driver itself adds only another 5 Ma. drain to the power supply.

The net effect of this design is a high-quality modulator (including a voltage amplifier stage drawing less than a Ma.) that has a static drain of approximately 20 Ma.

## ELECTRICAL DETAILS

With reference to the circuit diagram, Fig. 1, it will be noted that the entire modulator is push-pull throughout. Inasmuch as the Class B stage and driver must be push-pull, it was deemed desirable to carry this through to the input circuit in the same fashion, to avoid a phase inverter and to simplify construction. Note that only three condensers and eight resistors are used in the entire unit.

A bias battery is specified in order to provide the proper grid bias voltage for the 12AU7 modulator and the 12AT7 driver. Under zero-signal conditions, the bias voltage from either pin 2 or 7 of the 12AU7 to ground will be 15 volts, and the voltage measured across either R7 or R8 (the bias for the 12AT7 driver) will be 7 to 8 volts, when a 2.5 volt bias battery is used.

Note that the cathode current for the 12AT7 driver flows through the bias battery, and therefore this battery ac-

tually supplies a current in the order of a few milliamperes. In other words, the current does not tend to charge the battery, as in the usual bias case, but instead, tends to discharge it. However, this current is so slight that normal shelf life may be expected from the battery. This battery has no drain on it during stand-by or complete off periods, as current is drawn from it only when high voltage is applied to the modulator.

The first 12AT7 tube acts as a push-pull voltage amplifier. Because carbon microphones have a wide variation in output voltage, this first stage was added so that adequate gain would be available regardless of the microphone used.

Voltage for the microphone is obtained from the car battery, and a single shielded lead is used to provide filament voltage and microphone voltage. This lead should be made of heavy wire to avoid ohmic loss due to the filament current, and it should be shielded to prevent undue noise pick-up.

Potentiometer R1 (actually connected as a rheostat) serves as a gain control. Because it can only change the microphone current a small amount, it does not have a wide range of control, but it is useful for adjusting the level when different people use the microphone.

If the microphone has too much gain, it will be necessary to increase the value of R1, or add a fixed resistance in series.

A phone-c.w. switch is provided which removes all high voltage from the modulator and shorts the secondary of the output transformer when the switch is in the c.w. position.

An external switch must be provided to turn the filament circuit on and off. With the circuit shown this switch will also shut off the mike current. Some microphones incorporate switch contacts which may be used to control a relay for power switching. There are many possible control schemes and the refinements of the control system are left to the individual.

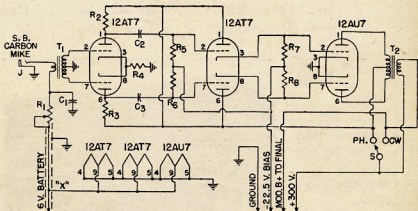


Fig. 1.—Circuit diagram of the Mobile Modulator.

- C1—500  $\mu$ F. 15 volt electrolytic.
- C2, C3—1000 pF. 500 volt ceramic or mica.
- J—Open circuit jack.
- R1—250 ohm potentiometer.
- R2, R3—0.1 megohm,  $\frac{1}{2}$  watt.
- R4—2200 ohm,  $\frac{1}{2}$  watt.
- R5, R6—0.47 megohm,  $\frac{1}{2}$  watt.
- R7, R8—10,000 ohm,  $\frac{1}{2}$  watt.
- S—S.P.D.T. toggle switch.
- T1—S.B. mike or push-pull grids.
- T2—Output transformer (see text).

(All resistors and capacitors  $\pm 20\%$  tolerance unless specified otherwise.)

## CONSTRUCTIONAL DETAILS

The general nature of the mechanical work is shown in Fig. 2. All of the parts, with the exception of the switch, are mounted on a piece of flat metal measuring  $4\frac{1}{2}" \times 5\frac{1}{2}"$ . The spacers which support this piece are  $1\frac{1}{2}"$  long.

Fig. 2 indicates how the parts are mounted on the flat chassis.

The shaft on resistor R1 is left long enough so that it projects through the front panel. The input jack is mounted on the chassis and a large hole cut in the front panel so that a mike plug can pass through. The switch is mounted on the front panel and the leads going to it are left a little long, so that the chassis can be removed easily from the front panel.

The front panel is one of the removable  $5" \times 6"$  sides of a standard  $4" \times 5"$  x  $6"$  cabinet.

## COMPONENTS PARTS

There are no critical components used in the Mobile Modulator and all parts may be plus or minus 20%, as indicated under circuit constants.

One part is worth discussing in more detail, however, and that is the output (modulation) transformer. Fundamentally, all that is required is a transformer with a primary plate to plate impedance of approximately 12,000 ohms and a secondary impedance of approximately 6,000 ohms. This latter figure assumes that the modulator will be used with an r.f. final where the plate voltage on the final is 300 volts and the final plate current is about 50 Ma.

The prime consideration in choosing an output transformer for the Mobile

Modulator are size, weight, efficiency and cost. A designer's concern over size, weight and cost is obvious, although concern over efficiency might not be.

If a transformer has a loss of 3 db. (and this is not unusual) then one-half of the audio power is lost in the transformer. In other words, if 12 watts could be obtained out of the tubes in a modulator stage, then only six watts

of distortion to the output signal. While the efficiency depends upon the primary to secondary coupling, the distortion is controlled largely by the tightness of the coupling between the two halves of the primary winding.

Obviously, any transformer of the proper impedance and power rating will serve, within the limitations mentioned, as T2.

## TESTING

There is very little that need be done when the unit is finished. As mentioned previously, it would be wise to check the bias values, and a meter reading of the resting current would also be advisable.

Do not attempt to test the modulator with signal input unless it is connected to the final, or unless a dummy load is used. A 5000 ohm, 10 watt resistor across the secondary of the output transformer will serve as a dummy load.

## OTHER USES

Even though the Mobile Modulator has been designed for mobile service primarily, it will make an ideal modulator for emergency work. The power drain is small and the unit is compact and reliable.

This modulator may also be used in the home station if a change is made. Wire "X" should be disconnected from the hot lead so that the filaments may be energised by a 6.3 volt transformer. The hot lead can then go to a small 4.5 or 6 volt battery which will supply mike current.

Regardless of the use for which it is built, this high-quality little modulator should find many uses around the shack.

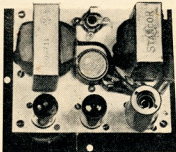


Fig. 2.—Rear view of the uncased Mobile Modulator.

would be available out of the transformer. This means you have only a six, not a twelve watt modulator.

In Class B systems another important but frequently overlooked consideration is that of the design of the transformer itself. An improperly designed transformer can contribute a large amount

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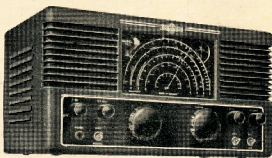
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# Mobile and Emergency Antenna

The antenna system about to be described ("Ham News," July-Aug., 1950) is, in theory, not new, but in the application end it seems to be all but unknown to the average Amateur. It is somewhat akin to the paper clip idea, being so simple yet so effective.

Antennae for low frequency mobile or emergency work normally fall in the category of pieces of wire less than a quarter-wave long. The big problem has been, and will be, how to make this short piece of wire look like a longer piece of wire.

This problem exists because normally it is easier to get efficient power transfer from final to antenna when the antenna length is an appreciable portion of a quarter-wavelength.

However, a point that most Amateurs do not fully appreciate is that, disregarding ohmic loss and directivity effects, one length of wire is as good as any other length of wire in radiating a given amount of power.

ductive to efficient radiation. But, here is an idea. Why bother trying to do a fancy matching job of getting voltage from the final tank into a network which then has to have another voltage which will produce our antenna current? Why not make the tank coil shape such that it will radiate?

This is exactly what has been done to make the antenna about to be described. In effect, a few turns of the final tank coil have been unrolled and straightened out to make a single large turn, or loop of wire. By getting this section of wire out of the tank coil, even though it is still part of the tank coil, we have caused it to become a relatively effective radiator.

## THE LOOP

The best shape for this radiating piece of wire is a circular single-turn loop. Of course, this sort of antenna on, let us say the eighty metre band, is not as efficient as a properly matched half-

The antenna network is wired as shown in Fig. 3A. In this case a coaxial line is run from the transmitter to the matching network. No tricky matching schemes are involved. The short piece of wire fastens to the two feed-through insulators, C1 is tuned to resonance, and you are on the air. This arrangement is ideal for emergency work where no permanent installation is desired.

The schematic in Fig. 3B is especially for use with mobile rigs. It is identical electrically to that of Fig. 3A, but the parts have been re-arranged. The practical way to use the circuit of Fig. 3B is to mount a ten or twelve foot whip antenna on the rear bumper and connect the upper antenna lead to the base of the whip.

The top end of the whip then connects to ground. This may be accomplished by running the whip until the tip of it reaches the rain gutter or some other portion of the car body. As before, matching is no problem. Merely tune C1 to resonance.

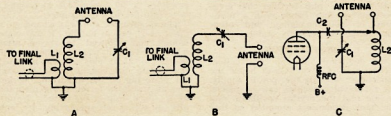


Fig. 3.—Circuit diagrams of the Mobile and Emergency Antenna.

C1—335 pF. variable.

C2—0.005uF. blocking condenser.

L1—two turns number 12 wire.

L2—eleven turns number 10 wire, 1½" in diameter, wound to cover two inches (approx. 2½ microhenrys).

In other words, a one foot piece of wire would be just as effective on eighty metres as a one-hundred foot piece of wire if means were available to efficiently match its impedance.

No matter how you look at it, however, the piece of wire you are using for the antenna is the wire that serves as your radiator, so the problem becomes one of getting the most current into that piece of wire, because, other factors being equal, the more current in a radiator, the better the signal radiated.

This question of getting the most current into the wire is one involving impedance matching, and it has been discussed by practically every author of an article on mobile transmitters. Suffice it to say that the shorter the piece of wire (for a given frequency) the harder it is to get that antenna current to flow.

## THE TANK COIL

At this point some of you are thinking that if this current is so important, why doesn't the final tank coil radiate, because it has just about as much current as any piece of wire in the rig? Quite true, it does radiate as some of you with t.v.i. may painfully recall.

It radiates, but not too efficiently, because the shape of the coil is not con-

wave antenna sixty feet in the air, but, on the other hand, it does do a very fine job of radiating. It has surprised many Hams who have tried it.

## PRACTICAL APPLICATIONS

The length of the wire in the loop is not at all critical except that the longer it is, the better (because the ratio of radiation resistance to ohmic loss is greater). Obviously, the larger diameter conductor used, the better. The shortest piece of wire used in tests was twelve feet of number 10. This means a loop with a diameter of about three feet, eight inches. The three circuits in Fig. 3 are designed to use any length of wire from twelve feet up to a quarter-wavelength. All data given is for 3.5 to 4 megacycle operation. The data would be similar for higher frequency operation if scaled down in wavelength.

Fig. 3C shows the practical method of using part of the tank coil as the antenna. In effect C1 is across the entire tank coil. This tapping arrangement is required in order to have control of the tube loading. To load more heavily, tap the coil and vice versa to load more lightly. Note that shunt feed is used so that no positive d.c. voltage is on the antenna.

## CHANGE OF ADDRESS

W.I.A. members are requested to promptly notify any change of address to their Divisional Secretary, not direct to "Amateur Radio."

While all of these circuits will resonate any length of wire from twelve feet on up, it is obvious that L2 has less which should be kept to a minimum. Therefore, L2 should be made as low inductance as possible consistent with the length of antenna used and coupling necessary. In addition, large conductors and well-made connections will really pay off.

For radiators in the order of twelve feet long, use the constants specified, remembering that the smaller the wire used to wind L2, the less effective the antenna system will be. For appreciably longer radiators, reduce the inductance of L2 to as low a value as practical. If possible, wind L2 with copper tubing.

## EFFECTIVENESS

It is difficult to state just how well an antenna works without taking a tremendous number of measurements. This has not been done, although a fair amount of experimental work has been completed.

For example, using a loop with twelve feet of wire, and the emergency rig on 80 metre c.w., W2FZW has been able to work stations in a radius of a couple of hundred miles quite satisfactorily.

One precaution is in order. There is a null perpendicular to the plane of the loop. That is, the loop radiates the least energy in the direction that you would see if you looked through the loop. This null is extremely sharp, and should not cause much trouble, since the rest of the pattern is quite broad.



# "Simplicity In Four"

BY C. A. CULLINAN,\* VK7XW

"Young fellers aren't like what they used to be in my time," said the Old Timer. "Why I was in a radio store the other day and there was a feller asking the bloke behind the counter for a condenser, No. 6841, Catalogue B, so I pipes up, asks him what sort of thing that was, and he says he doesn't know, but that's what the Yank radio book said."

"Crickey, I suppose that's what gave the R.I. the grey hairs for I bet this feller doesn't know one microfarad from another. He probably quoted catalogue numbers at him in the exam."

It is rather unfortunate that many magazine editors have adopted the policy of allowing their writers to describe the construction of transmitters and receivers by the name of a particular maker and his catalogue, and when it comes to getting a particular part, to find that it just can't be obtained.

This sort of thing is unfortunately more and more on the increase, and while the experienced Ham can soon devise something to take the place of "Whoozit's No. 5 left-handed resistor," the newcomer to the ranks of Amateur Radio may find himself stumped.

It was therefore with these factors in mind that this little transmitter was designed. All parts are available in Australia and New Zealand from reputable stores and none of it is from disposals items that may be plentiful in Melbourne or Sydney and non-existent elsewhere.

To the Amateur newcomer who is looking for a simple easily constructed transmitter which can be put together with the assurance that it will go with a minimum of fuss and to the old timer after a nice low powered job, this little transmitter can be recommended.

## DETAILS OF CIRCUIT

Now let us see what it will do. With only four inexpensive valves, it will operate on four bands with one crystal and deliver from 10 to 25 watts, depending on the power supply used.

Basically it comprises a type 6V6 valve operating as a straight crystal oscillator in the 80 metre band and its output is always on that band. This is a simple straightforward crystal oscillator that keys beautifully, has low crystal current and above all is free of the bugs that frequently infect the more complicated types of oscillators.

A type 807 is employed as a final amplifier, with plug-in coils for each band. On 80 metres it is operated as a straight amplifier. Provision is made for modulation and for this purpose the screen resistor is shunted by a condenser to permit simultaneous plate and screen modulation.

For 40 metre operation, the 807 valve is operated as a doubler, the oscillator

remaining on 80. To change from 80 to 40 it is only necessary to change the output coils and retune the final tank. The power output on 40 will not be as great as on 80, but the efficiency of the 807 is so high that the loss by using it as a doubler is not great enough to worry about.

In order to operate on 20 metres, a 6V6 is switched in between the oscillator and the final. This 6V6 is used as a quadrupler and on this band the 807 is operated as a straight amplifier.

For 10 metre work, the quadrupler is left in circuit and the 807 again becomes a doubler. It will be observed that the second 6V6 is triode connected and that the cathode circuit uses a 2.5 mhy. choke shunted by a small condenser. This combination makes the quadrupler slightly regenerative, but the stage is perfectly stable with no tendency towards self-oscillation as frequently occurs with complicated frequency multiplier stages. Thus we have a transmitter of three valves plus rectifier that gives operation on four bands with a minimum of coil changing, and other troubles, and is perfectly stable.

## CONSTRUCTION

Now for some notes on construction. A chassis 11" x 7" x 3" will house the transmitter without the power supply. The three valve sockets can be placed in line and the crystal oscillator and final tank condensers mounted so that

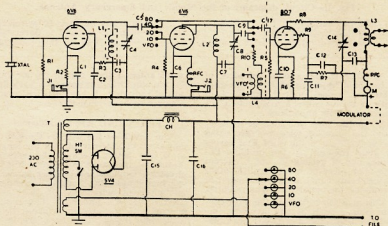
their shafts can be fitted with dials. The quadrupler tank condenser need not be extended to the front panel as it is set for the centre of the 20 metre band and left fixed in that position.

The switch is a standard receiver short wave switch. In our case each section has five contacts wired as shown. This is done so that a pilot light will show up which band is in operation. Strictly this is not necessary and a two pole switch can be used instead if the little bit of glamour of the pilot lights is not desired.

The oscillator plate coil is wound on a piece of 1" tubing and fitted inside a receiver coil can with spade lugs. The assembly is mounted on top of the chassis.

The 807 should be provided with a shield can around its lower portion; also a shield partition of aluminium was found necessary running from front to rear of the chassis on top and slightly higher than the 807 plate cap. This shield screens the whole of the final amplifier components above chassis from the remainder of the transmitter. This shield was found necessary in one model of this transmitter to get rid of a slight trace of instability in the final amplifier on 20 metres due to coupling back into the 6V6 quadrupler.

The quadrupler coil was wound on a piece of 3" broom handle. It was close wound and allowed to spring after winding. Then it was stretched to the length indicated. This coil was mounted underneath the chassis right between the plate lug on the quadrupler socket and an insulated terminal lug mounted on the back drop of the chassis. Naturally the coil is self supporting. Its tank



- C1, C2, C3, C7, C10, C11, C12—0.01  $\mu$ F. mica condensers.  
C4—100 pF. midjet variable condenser.  
C5, C9, C17—0.0002  $\mu$ F. mica condenser.  
C6—0.0001  $\mu$ F. mica condenser.  
C8—5 plate midjet variable (25 pF.).  
C13—0.005  $\mu$ F. mica condenser.  
C14—100 pF. variable transmitting type.  
C15—8  $\mu$ F. 600 volt electrolytic.  
C16—16  $\mu$ F. 600 volt electrolytic.  
R1—25,000 ohm 1 w. carbon resistor.  
R2, R6—250 ohm 3 w. w.w. resistors.  
R3—50,000 ohm, 1 w. carbon resistor.  
R4, R5—100,000 ohm, 1 w. carbon res.  
R7—15,000 ohm, 3 w. w.w. resistor.  
R8, R9—200 ohm,  $\frac{1}{2}$  w. carbon resistors.

- R10—200 ohm, 1 w. carbon resistor.  
M—0-150 Ma. DC meter.  
CH—30 hy. 100 Ma. 100 ohm choke.  
T—Power transformer, 385/385 v. 100 Ma., 5v. 2a., 6.3v. 2a., with static shield.  
RFC—2.5 millihenry r.f. choke.  
Sundries: two octal sockets, one five-pin ceramic valve socket, one six-pin ceramic socket, four six-pin  $\frac{1}{8}$ " coil formers, one short wave switch 3 bank 5 position, five pilot light assemblies, chassis to suit, two 6V6s, one 807, one 5U4 or 5Z3.

\* 12 Montrose Place, Launceston, Tas.



condenser was mounted directly above on top of the chassis.

Coils for the final amplifier tank were wound on six-pin 1½" diameter formers to the sizes specified. The socket for these coils was mounted off the chassis by means of a pair of small stand-off insulators.

It is important that the two resistors, R8 and R9, be attached as close as possible to the 807.

### TUNING UP

One of the attractive things about this transmitter is the ease with which it can be tuned up. A milliammeter should be plugged into the keying jack, J1, and with the transmitter turned on, the oscillator condenser is turned until the plate current dips. This is the point of oscillation. If it has been necessary to use a different gauge of wire in winding the oscillator coil, or a different size shield can, then it may be necessary to alter the number of turns slightly on the oscillator coil to make the stage oscillate. If possible, use a crystal which will multiply into the centre of the 20 metre band.

With oscillation obtained, the tank condenser for the final amplifier should be rotated to obtain a dip on the final plate meter. Make certain that the switch is in the 80 metre position and that an 80 metre coil is in the socket. With 350 volts on the plate and no load on the final, this stage will dip to about 15 Ma. with the screen resistor specified. Next break the h.t. and insert the 40 metre coil. With h.t. re-applied, it will be found that on again rotating the final tank condenser another plate cur-

rent dip will take place. This will be about 20 Ma. The oscillator condenser should not have to be touched. It may happen that two dips will occur, one near full capacity and the other near minimum capacity. The latter should be checked with a wavemeter as it will probably be either the third or fourth harmonic of the oscillator frequency. Neither of these are required.

Next the 20 metre coil is put into place, again taking care to turn off the h.t. Apart from the danger of getting a shock, the practice of changing coils with the h.t. left on may damage the 807 for the screen is still connected to the h.t. supply.

The frequency selector switch is then turned to the 20 metre position and the final tank condenser rotated for the plate current dip. At this stage a wavemeter should be used to determine if the final amplifier is on 20 metres. If so the quadrupler tank condenser should now be adjusted, a milliammeter having been inserted in jack J2. Alternatively, the correct position can be found for the quadrupler tank condenser by turning it only and watching the final plate current meter for signs of a better dip. It is necessary in this stage to make certain that it is acting as a quadrupler, not a tripler. A wavemeter coupled loosely to L2 will soon determine this. If the stage is acting as a quadrupler, but will not tune properly it may be necessary to alter the tank coil slightly until the tank does tune. The values shown have proved successful in three transmitters, but stray capacities may alter things a little.

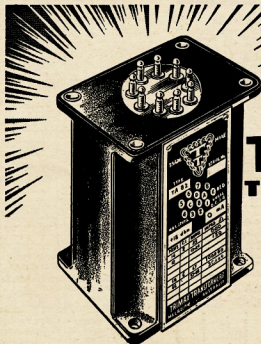
If the quadrupler is switched out of circuit by turning the switch to 80 metres it should be possible to obtain the 807 plate current dip on the fourth harmonic at the same position on the dial as 20 metre output is obtained when the quadrupler is switched in. In other words, the final amplifier tuning should be the same on 20 metres when the quadrupler is switched in and out. However, the amount of the final amplifier plate current dip will be greater when the quadrupler is in circuit, indicating greater efficiency in the 807. The dip should be about the same as was obtained when the transmitter was on 80 metres.

The next step is to replace the 20 metre coil with the one for 10 metres and with the quadrupler in circuit locate the 10 metre dip on the final plate current meter.

When all this has been done, it will be found that with the one crystal four bands can be covered with approximately the same output on each band.

No data has been given for the output link or coupling methods since this will depend to a great degree on the aerial system used and the antenna coupler employed if one is used. (A link coupled antenna tuner is very necessary when this rig is used on 40 metres, and is advisable for that matter on all bands, to prevent radiation of harmonics and sub-harmonics. Sub-harmonics are very prevalent when the final is used as a doubler, so play safe and link couple to an antenna tuner.—Tech. Ed.)

(Continued on Page 15)



## TRIMAX TRANSFORMERS

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## Amateur Radio, March, 1951

# "Fireside Five"—With A Difference

BY STEVE GRIMSLEY,\* VK3ASG

A 100 watt phone rig, a commercial communications receiver and a beam are just the things to have around for that serious work, but unfortunately take up far too much space when you want to operate from anywhere but the shack. That was the author's problem anyway, until he built up this little outfit—and all from parts on hand.

With only five tubes, plus rectifier, we have a receiver, modulator, crystal

transmitter, and phone monitor. It can be built up on one small chassis and goes "like a bomb" on either 230 a.c. or 6 volt d.c. You can use it for emergency work, for the holiday house, in the car, or just park it in the bureau drawer in the lounge or on the bedside table.

It's just the thing for those freezing nights in winter, or for a standby Tx when you want to work on the main rig and keep those skeds. Just put up a random length of wire in the ceiling and bring the end out near the fireplace, and you're all set to put on your slippers and keep the XYL company for a change!

Let's look at the circuit. Not exactly original perhaps, but simple, economical, and pruned of all but essentials. By all means build a conventional a.c. power supply if you wish. Supply voltage should be about 250 at about 80 Ma. Antenna switching arrangement is left to individual requirements. The author uses an old knife-switch type lightning arrestor. The 6SH7 makes a beautiful regen. detector. It goes into oscillation smoothly, has a ton of punch, and has the added attraction of being readily available from disposals sources at a low price. A phone jack in the cathode of this tube (shorted in the "receive" position) is provided for monitoring phone quality. When transmitting, the short on the jack is removed, the h.t. removed from the tube, and half-wave rectification between the grid and cathode does the rest.

The audio section is quite normal. No gain control is provided for the modulator, merely load the final to about 30 Ma. (7½ watts) and don't scream into the mike and you will find full modulation will be automatic. A single "phone-c.w." switch is provided. This method

is not advised with a higher plate voltage than 250 as a burned out switch is bound to result, especially with plate and screen modulation and the normal panel toggle switch.

A single four-pole two-position switch is used for "Send/Receive." The two sets of contacts farthest apart should be used for the voice coil and 6J7 grid switching to obviate feedback. This switch is labelled S1 in the diagram.

The method of adjustment of the transmitter is obvious, and after checking the p.a. grid drive for oscillator out-

\*46 Warrigal Rd., Surrey Hills, E.10, Vic.

## PREDICTIONS

(Continued from previous page)

### QUIZ

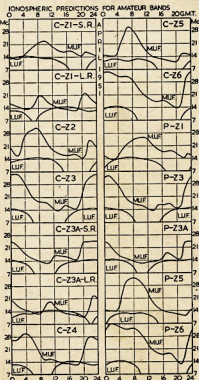
The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Perth-Mandla circuit would be useful—

1. Were good conditions experienced on 7 Mc. for the period 1000 to 2200 hours G.M.T.?
2. Was the 14 Mc. band workable around 2100 hours G.M.T.?
3. Was the 28 Mc. band workable from mid-night to 1000 hours G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.

### APRIL, 1951

It is hoped in the future to be able to continue to give the predictions a month in advance. Commencing this month, we also publish the chart for April, 1951.



## MAGAZINE

By the time this issue is distributed two members of the Magazine Committee will have been married, Ian Sewell, VK3IK, and Alan Head, VK3AKZ. The two remaining single members of the Committee are now going cross-eyed watching one another—who is next?

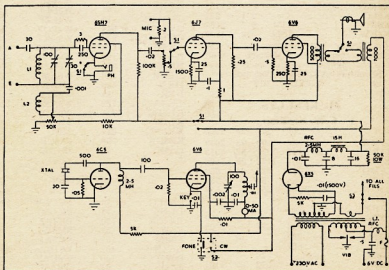
put, the 6C5 can be forgotten. Drive should be about 2 Ma. with about 180 to 200 volts to the 6C5.

To finish up, here are the coil details for 7 Mc.:—

**Receiver:** Grid, 16 turns of 22 enamel ¼" long, 1" diameter; Reaction 8 turns, 28 enamel, close wound, ¼" from L1.

**Tank:** 16 turns, 18 tinned copper, on ¼" former, spaced to length of 1½".

One more thing, to achieve utmost selectivity from receiver, operate right at point of reaction and adjust gain control to suit.



Schematic diagram of "Fireside Five."

Note.—S1 shown in "Receive" position.

S2 " " "Phone"  
S3 " " "A.C." "



# VK-ZL DX Contest Results, 1950

## VK RESULTS

### C.W. Section

Call	80	40	20	11	10	Total
VK2DG	—	493	2710	—	69	3272
VK2AHA	—	315	2402	80	149	2946
VK2ZC	—	370	1792	42	69	2273
VK2GW	—	178	1549	15	90	1832
VK2WA	—	—	804	—	—	804
VK2PV*	—	456	—	—	—	456
VK3DQ	—	309	1056	—	—	1365
VK3XK	—	172	671	—	42	885
VK3PG	—	114	718	—	42	874
VK3PL	—	—	698	—	—	698
VK3RJ	—	—	466	—	15	481
VK3YF	—	—	340	—	—	340
VK3XB	—	—	180	—	30	210
VK3TX	—	—	186	—	—	186
VK3KS	—	—	134	—	—	134

VK3ET*	—	—	—	—	—	—
VK4 NIL	—	—	—	—	—	—
VK5FH	—	370	1835	—	42	2247
VK5BO	—	—	1076	—	—	1076
VK5RX	—	—	688	—	—	688
VK5JE	—	303	—	—	—	303
VK5KO	30	196	—	—	—	226
VK6LJ	—	87	541	—	—	628
VK3XK/7	—	85	156	—	—	251
BERS195	—	677	2053	—	29	2759

\* Denotes Check Log.

Certificates will be awarded to the highest scorer in each district as well as to the highest scorer on each band as follows:

80 metres—VK5KO	30	points
40 " VK2DG	493	"
20 " VK2DG	2710	"
11 " VK2AHA	80	"
10 " VK2AHA	149	"

### Phone Section

Call	20	10	Total
VK2DG	1335	218	1553
VK2AKV	530	—	530
VK3HW	1995	135	2130
VK3LN	1868	—	1868
VK4KS	1751	—	1751
VK3LC	—	221	221
VK6RU	1251	912	2163
VK6KW	1093	828	1921

Certificates will be awarded to the highest scorer in each district as well as to the highest scorer on each band—  
20 metres—VK3HW 1995 points  
10 " VK6RU 912 "

## ZL RESULTS

### C.W. Section

Call	80	40	20	10	Total
ZL1MB	—	384	1590	75	2049
ZL1BY	83	447	1391	92	2013
ZL1AU	—	301	1172	29	1502
ZL1MQ	—	230	638	84	952
ZL1DV	—	—	750	—	750
ZL1QW	—	—	556	—	556
ZL1HD*	—	—	—	—	—
ZL1HY*	—	—	—	—	—
ZL2MM	—	489	—	—	489
ZL3OA	—	346	1656	—	2002
ZL3JA	—	224	774	15	1013
ZL3LL	—	627	—	—	627
ZL3CP	—	—	526	—	526
ZL4JA	—	—	1072	29	1101
ZL4KB*	—	—	—	—	—

\* Denotes Check Log.

Certificates will be awarded to the highest scorer in each district as well as to the highest scorer on each band—

80 metres—ZL1BY	83	points.
40 " ZL3LL	627	"
20 " ZL1MB	1590	"
10 " ZL1BY	92	"

### Phone Section

Call	20	10	Total
ZL1MQ	533	195	728
ZL1HY*	—	—	—
ZL2GX	120	—	120
ZL3QZ	29	—	29
ZL4JA	457	84	541

\* Denotes Check Log.

Certificates will be awarded to the highest scorer in each district as well as to the highest scorer on each band—  
20 metres—ZL1MQ 533 points  
10 " ZL1MQ 195 "

## OVERSEAS RESULTS

### C.W. Section

Call	Score	Call	Score
CE3AG	622	OA4J	492
CN8EG	123	OE1CD	677
CT3AA	30	OH6NZ	395
CT1AL	44	OH3NU	139
DL1FF	1666	OK1VW	889
DL1KB	1115	OK1HI	770
DL1QT	901	PA0ZL	195
DL6BU	330	PY4IE	357
DL1EB	186	SM5PV	426
DL1FG	186	SM7QY	408
DL4YA/P	59	SM5CO	403
EA4CK	245	SM7MS	114
EA3CK	60	SM5LL	75
F0RO	327	SM5WL	59
F8TM	187	SM8AQR	29
F3CT	130	SP1JP	389
F8ND	74	VS6BW	117
F3TZ	59	VU2BK	533
G2AJ	1219	W2WZ	1012
G6XN	835	W2EWZ	207
G3COJ	755	W3HFK	821
G8DA	196	W3UV	116
G6AH	105	W3BIP	60
G3GPC	84	W3DLI	59
GM3EST	15	W4LZ	774
GW3ZV	944	W4POF	337
GW3FSP	520	W5QKZ	89
GW8BW	318	W5AWT	86
HA4SA	199	W6MVQ	2250
HB9BN	329	W6UZX	2062
IBCB	250	W6AM	855
I1KN	445	W7DTH	185
I1ER	44	W8ZBC	102
JA2FM	722	W9AEB	1264
KH6DQ	1251	W9YDP	15
KL7SF	45	YU1CBC	279
KP4CC	817	ZSSU	598
KZ5CW	98	4X4CR	112
LA4K	45	9S4AX	100

### Phone Section

Call	Score	Call	Score
CN8EG	74	PK1WW	249
DL1FF	73	PK4OO	213
EA4CK	170	PK4ZZ	73
EA2CK	57	SM5WL	79
F8RM	102	SM5APA	29
G6XN	451	VS1DZ	1041
GW3FSP	140	W6UZX	806
JA5RC	64	W6AM	15
KH6ADY	45	XZ2SY	786
OK1HI	164	YN4CB	192
OK1VW	111	ZS6JS	501
OK2SO	98	4X4CR	44
PA0BRG	15	—	—

## LISTENERS' SECTION

New Zealand—J. B. Holder, 648 points.  
Australia—E. W. Trebilcock BERS195, 2759 points.  
Switzerland—R. Dumas, HB9RSE, 422 points; E. Heritier, HB9RDX, 254 points.  
Yugoslavia—Djuro Borosic, 128 points.  
Germany—E. Kintuher, DEM1977, 189 points.  
England—R. W. Thomas, BRS15822, 1138 points; W. L. Ely, BRS1535, 997 points; L. Shearlaw, BRS15846, 252 points.  
Finland—Pentti Sare, 337 points.  
Czechoslovakia—Joseph Foldyna, OK2-6024, 388 points.

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# FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

## 144 Mc. CROSSES THE TASMAN

During a 30 Mc. contact on 31st January between VK5AH and ZL3 AGU, VK3AH was heard on five-minute transmission on 144 Mc. which was copied by ZL1A0X. Unfortunately due to the 30 Mc. DX station's fading, contact between the two stations was lost before ZL1A0X could make a 144 Mc. transmission.

Further interesting 144 Mc. news concerns the daily contact between VK3AH and VK7AB and VK7KB at 0715 hours. Signals have varied between 10 and 15 plus. During the same period contacts have also been made on the evenings with less consistency.

On 15th February at 1230 a.m., 144 Mc. signals were first heard in Ballarat by Ron Wilson, who used a stacked 4 over 8 beam, they were Q583. He notified VK3GM who on listening at 1.45 heard VK3GM's signal on his listening at 8.35 plus calling "Q". Contact was made and the power remained the same until 8 a.m. when the power was cut off due to rationing. Ron then called on VK3BS, who fitted his beam to suit Ron's place and using his beam made contact at 8.15 until 8.30; signals were audible until 8.45. On the evening of 15th, signals were heard by VK3GM at 9.5 p.m. and contact again made; signals this time were just as loud, but subject to fading. On 16th, signals were heard by VK3GM was called in and made contact with VK7KB just before the signals faded out at 9.30 p.m. Conditions on Melbourne stations were about average and the weather seemed to be good. It is due to Ron Wilkinson, of Ballarat, who has been listening every morning for signals from VK3. Immediately advised VK3GM on this morning that he had been a careful watch had been kept previously but no trace of any signals heard.

## 50 Mc. ACTIVITY NEW SOUTH WALES

On Sunday 21/1/51 there was an excellent opening of the band to ZL1, ZL2 and ZL3 and another on 28/1/51 on the whole the DX seems to be coming in freely. There is talk of 578 Mc. activity. 2ARG has been heard on 50 Mc. portable gear which 2WH used while on holidays in Sydney. Hugo and 2AMV also operated portable from the 50 Mc. band. Field Day making Sydney contacts from the top of Mt. Panoramia.

During the night to VK5 on 20/1/51, V15' 4th harmonic beating with 2QZ's signal was heard at Berry by 5MA. One gets used to this noise report in Sydney but it's a bit thick in VK5. 5MA made the signal in Sydney in March and hopes to call on some of the v.h.f. gang.

The Blue Mountains station put solid signals into Sydney. 2F1 having receiver trouble, is re-building when he's not busy taking the dog for a walk. I hear that 2LY is off to VK3. 2AET seems to be working with the band. 2AET is final and was working ZLs a couple of days later. Another 144 Mc. identity, 2ABZ, has been attracted to the band, possibly by the DX. 2PU has been trying out modulation and making a good job of it. The method has allowed him to increase power somewhat. 2ABC is off to VK5 hoping to visit some of the VK5s en route.

2AKK has his v.h.f. call Q as Ham bait. He's on 50 Mc. and is operating "portable". 2AJR is 32 Mc. final at some time in Sydney, but the rig and RX have plug-in coils for 40, 20, 10 and 6, so doesn't rely on the v.h.f. bands.

At the January meeting of the v.h.f. section, b.c.l. from v.h.f. transmission was discussed and various experiences were related. The section will offer to help in this matter if requested and 2QZ was sold the job of co-ordinating. Operating in a block of city flats has led to this satisfactory situation. Ignition noise, lack of antenna space, sewing machines and the like.

2VU scored the first Sydney-Tasmania contact on 30 Mc. when he worked 3U1. He reported to be opening up on the band so the year promises some interesting country contacts.

## VICTORIA

The month of January held up fairly consistently for DX openings, especially for early in the morning. Very few extensive voyages to work with. If anything, the DX was 200 miles and up—was there in a greater number of openings than in previous years but the signal strengths were not up to previous years.

peaks but in the main the contacts were usually RS so that's what counts in a contact. The last contact with the VK5s was on the 15th January, but that was well up the band.

Openings to VK2 and VK4 came nearly every day with fairly good openings to VK3 on the 3rd, 5th, 7th, 12th and again on the 22nd.

The daytime regulars missed a good VK7 opening one dinner time but were unfortunate that they and Dick could not operate that day. It was one of those days when the juice was off for a short time. 3AHX reported to be on a tour on his holiday and returned home to find his 50 Mc. aerial blown up—sky-wards—and we can all look for Keith's usual good signs upon re-appearing. Some of the v.h.f. boys in Shepparton are very active; we are pleased to welcome 3ALE on 50 Mc. also 3AT and we must mention that 3BZ is also back on the job again. Together with 3U1 at Tatura they have a good group of active v.h.f. boys. We also welcome the return of 3CL from VK5 land (583) and all hope that it will not be long before Sid is pumping out signs from Merbein at his new QTH.

## SOUTH AUSTRALIA

The v.h.f. contest concluded with some extra good openings to ZL1 and ZL2 in the mornings and in the evenings, although hard to contact at night. On preliminary scores, the DX recovered its usual place. 3AHX reported a little in front. More activity is being shown in 144 and 288 Mc. recently and it is pleasing to see. All efforts to get 53A (Darwin) cracking into 50 Mc. are being made. 3U1 is missing. Lack of power supply for the converter, then transformer trouble in the rig, valve trouble and the receiver etc. all seem to be good intentions. The wet season is hard on equipment. Some hours of listening only produced weak carriers. With the contest on and most beams turned east and west, no doubt it would be hard.

Stations heard on 50 Mc. are: 3MD on 51.9 Mc., 3G 52.5 Mc., 3G 53.5 Mc., 3J4 52.9 Mc., 5GL heard almost nightly on 50 and 144 Mc., and 5MK who is also testing on 288 Mc. using a pair of 7193s in transmitter.

## WESTERN AUSTRALIA

It would appear that once again 7th January has written the finish to 50 Mc. DX for the metropolitan area. At 0900 a.m. 6GB opened to VK5 for half an hour when 6GB and 6AS worked 5QR and 5MK. 5KO was heard on c.w. and answered by both stations several times without any QSO results. Since then there has been no breakthrough from Perth. 6BO portable out at Bunbury continued the good work. 6GB and 6AS, all told, made the first opening back in December, has had some 96 QSOs from home and portable locations. 96 also provided some good contacts for Perth stations during his sojourn in the south.

Both 6DW and 6WG from the country certainly had a grand time during the last two and a half months. Half way through January they were both up around the 150 QSO mark which is really good work. 6WG also had a very good working on 50 Mc. with 6GB and 6AS with signals around the 89 mark. 6HIM in Kalgoorlie is apparently active. Was heard being called by a VK5 one day, but no details to hand from Charlie. Likewise no news from 6MU in Merredin. 6GB is working on a new final using a pair of 807s designed for super modulation. 6HIM on 50 Mc. gave him a call one time off during the v.h.f. contest to work him whilst he was portable in Bunbury, knowing full well they could not score from the QSOs with him. This is a mark of the friendly operating technique on six.

## 144 Mc. DOINGS OF THE MONTH NEW SOUTH WALES

On 21/1/51 at about 2000 hours 2AH was working ZL1A0X on 50 Mc. 2AH gave him a call on 144 Mc. phone. ZL1A0X came right back on 50 Mc. with a RS 5S report on Alan's signals. Unfortunately a two-way contact could not be made on 144 Mc. as the DX was on 144 Mc. 144 Mc. beam was not directed towards Sydney when he heard 2AH and the signals were not strong enough over with the beam lined up. Nice work Alan.

During an opening of the 50 Mc. band to VK5 on 20/1/51, 2HO set to and called 5QR on m.c.w.

Signals were heard but were not positively identified.

At the DX that 2ARF went marine portable on the National Field Day picnic. 2ATL and 2ACQ are new stations on the band, but the 60 odd stations active during the contest are sadly depleted. It is hoped that renewal of the DX contacts will stimulate more interest. There was a very poor response to the request for details of the gear used for a description of VK2 144 Mc. rigs, RXs, antennae, etc. You can't hope to make progress if you don't know what the other chaps are doing.

## VICTORIAN V.H.F. GROUP NOTES AND NEWS

The group meeting met on the 13th Wednesday of every month when all interested in v.h.f. bands, 50 Mc. and above, are invited to attend. Sixteen members attended the January meeting and a cordial welcome was extended to a visitor, Chas. Robinson, ex-VK7CR, now VK3ACR. A general discussion on v.h.f. topics including reports on portable stations, their activities on 14th January, election of a committee to check field day logs, special v.h.f. c.c. certificate, and probable locations of stations for the February and March contests was held.

Reports on the January field day from 3ABA (Mt. Macedon), 3FO (Yarrambank) and 3JO (Mt. Martha) all showed that there was much activity on 144 and 288 Mc. but not on 50 Mc. 288 and 578 Mc. It was pleasing to note that stations were spread over the whole 144 Mc. band and that the contest was well supported.

Three non-transmitting members, Messrs. Len Jackson, Jim Gibbons, and Ted Howell, were appointed to a committee for checking field day contest logs. Prizes will include a day donated by 3AUP, a 100th and an 801, donors of which prefer to remain anonymous.

Please note this correction to the rules as published in "A.R." last month. Rule 4.—Multipliers: 50 Mc., 1; 144 Mc., 1; 288 Mc., 2; 312 Mc., 3; 315 Mc., and up 4. The points earned by each band multiplied by the multiplier for that particular band and the resultant scores are then added to give the total score. Thus, if a station worked 100 QSOs on 50 Mc. the multipliers for which are 1 in each case, the final score will be the same as that obtained from the mileage/points scale. If he worked on 144 Mc. 10,000 miles, he would multiply his score on 288 Mc. by 2, his score on 578 by 3, his score on 10,000 Mc. by 4 and then add the results to give the final score. 288 and 578 add multipliers in the manner indicated last month.

The suggestion that a v.h.f. century club certificate be awarded to members who work and produce QSLs to show they have worked, at least 100 stations on frequencies above 100 Mc. was not taken up. It was pointed out that as it was felt that activity on those bands would be thereby increased.

The next field day will be held on Sunday, 18th February, the following stations are invited to be indicated that they will be active: 3FO (Mt. Donna Buang), 3ABA/VS (Mt. Macedon), 3AKE/VS (Yarrambank), 3JL (Mt. Buninyong), 3FO (Yarrambank), 3U1 (Tatura), 3JL (Tatura), 3ZL and 3ZK will also be on 288 and 578 Mc. respectively. Country stations may be able to help in the contest on the next field days by working out a system of beam directions and times of calling and notifying in time to include them in these notes; the 15th of next month is the deadline. Listen to 3WJ broadcasts for further particulars of field day activities. Considerable interest was shown in the DX on the evenings of 25th and 26th January. Signals from country stations being about 24 db stronger than normal. It would be interesting to know just how long the temperature and humidity inversions obtained on those evenings.

In view of the big possibilities of Interstate contacts, 144 Mc. and 288 Mc. about the v.h.f. boys in each State hooking up on the 7 Mc. band once a week to chew the fat? What about getting together on approx. 7100 Kc. at say 10.00 p.m. on the 1st of each month? If anyone is able to suggest a better time or day, let us know because by the past happenings on the 144 Mc. band, it is obvious that anything is likely to happen.

## 578 Mc. BAND—NEW SOUTH WALES

At the VK2 Convention, a 578 Mc. hook-up in the city was demonstrated and the signals were 58 at both ends, despite several layers of atmospheric ducting. 2ARG and 2AHX operated one station and about a hundred other Hams operated on this band for the first time at Federation House. 2FK's xtal control Tx was used. 2AHX was on 578 Mc. with a crystal, two 6J5s and a 955 final—lighting a tower globe with the output. Though not unusual, it was a first. The band was to be sold day on 578 Mc. on 15th 13th April with 20 Mc. and 144 Mc. stations also active—more details later.

# N.S.W. Division Jubilee Year Annual Dinner, Hamfest and Field Day

BY BILL MOORE, VK2HZ, AND DAVE EVANS, VK2AYE

The Annual Dinner, Hamfest and Field Day, which marked the celebration of the Jubilee Year and the fortieth anniversary of the Wireless Institute of Australia, New South Wales Division, will be long remembered as the most outstanding function of the Division for many years. Preparation of details was undertaken by the Council, ably assisted by a group of Past-Presidents who willingly submitted to co-optation on the Committee, and in short order a programme was formulated and duties and details worked out and allocated.

## TELEVISION DEMONSTRATION

The first item on the programme was timed for 8 p.m. on Friday, 26th January, with a television demonstration and lecture at the A.W.A. Works, Ashfield. Over 250 members and friends attended and many received an excellent first viewing of this new branch of radio science. The meeting was opened by Mr. Parkinson, A.W.A. Works Manager, who expressed his pleasure at having the members of the Institute as the guests of the Company and then turned over the conduct of the meeting to President Jim Corbin, 2YC. Jim proceeded to welcome members' guests and outlined some points of our history. Our photogenic President had the doubtful pleasure of addressing a very sparse audience for the majority of the guests were observing the proceedings in the television receivers which lined one side of the large cafeteria and which provided excellent definition and was ably supported by a first-class audio transmission. On the termination of his remarks, Jim turned the microphone over to Mr. Fleming, A.W.A. Staff Welfare Officer, who introduced our lecturer, Mr. W. Honner, of A.W.A. Research Laboratories.

Mr. Honner spoke at length on the general principles of television and was able to strike a style of delivery which made his address as interesting to our non-technical guests as it was to members. Of particular interest was the recounting of his experiences in television transmissions in various countries abroad; England, France and U.S.A. all came under discussion and a brief description of the types of programmes transmitted in each country gave members an opportunity to appreciate the fact why the 625 line was being adopted here. Television, Mr. Honner pointed out, would never completely succeed in displacing conventional radio in the affections of the people; it was a totally different type of entertainment and, due to the extremely high cost of programme production, it would never occupy lengthy transmission periods. Another difficulty was the fact that a television programme had to be rehearsed for six weeks before presentation, further, actors had to be word perfect as no script could be used and, once a programme was produced, it was the final show and no recording could be made for future use. Obviously, therefore, television called for a set of exacting standards from both actors and personnel and it

would be a long time before the OM's dinner and the housework suffered through the addition of the XYLS to the magic screen. The latter point was dealt with by Mr. Honner in humorous vein and indicated that the future may see a brood of television widowers replacing the many radio widows.

At the conclusion of Mr. Honner's lecture a demonstration of the various lenses was made, showing the systems used for "close-ups." Guests were invited to "talk before" the television camera and to observe themselves in a screen which had been placed adjacent to the stage. Practically all present availed themselves of the invitation—with not a few shocks. President Jim Corbin then proposed a vote of thanks to the A.W.A., coupling with it the names of Messrs. Horner (Asst. Gen. Manager), Parkinson, Honner and Fleming and the cafeteria staff who had sacrificed part of their holiday period to enable the Company to entertain us. The vote of thanks was ably seconded by 2RA and was carried by acclamation.

Guests were then invited to partake of an excellent buffet supper, the standard of which was fully in keeping with that of the entertainment and to which all did justice. The meeting concluded at 10.45 p.m.

The thanks of the Division are due to A.W.A. for their whole-hearted co-operation in providing a diversion of such outstanding quality, and, in particular, desires to thank those ladies and gentlemen who curtailed their holidays so that the Company could conduct the function.

## GEAR ON VIEW

The second feature of the Hamfest was gathering of the clan at Federation House at 2 p.m. on Saturday at which over eighty members attended for a demonstration of gear and a general "rag-chew." The meeting was opened by the President and, as the first item on the programme, 2IQ set himself up as a "sitting shot" for unorthodox questions regarding any angle of Amateur practise. Angus took all the honours as nobody succeeded in upsetting his equilibrium. He was followed by Cec Cronin who gave a remarkable demonstration on 576 Mc. and the rig, operated by 2EQ, maintained contact with 2KF who was moving around the city in a car, and with 2ANF who operated in a building in the city. The 576 Mc. gear, transmitter and receiver, was housed in the base of an ordinary telephone and will indicate the facility and ingenuity of Cec when confronted with problems of design and construction.

2ADT then demonstrated a turret switched receiver and gave lengthy descriptions to all interested. The receiver embraced all the most desirable attributes of communication receivers and was a remarkable piece of home-built equipment. Switching is accomplished from 144 Mc. through to 3.5 Mc. and the construction must have provided Jack with some solid headaches. [Methinks this Rx would be the makings of an excellent article for "A.R."—Ed.]

2ARH was next on the rostrum when

he displayed and described a 7 p.m. Dip Oscillator and Antenna Scope. Ray's ability to hold the interest is well known and his remarks were well received. Final item was the serving of afternoon tea by members of the Divisional Council and their Tea Director, Joyce Jira 2AMJ. This tea, being arranged by males, showed their lack of training since we had no teaspoons or tea towels, however, four spoons came to light from some angle and eventually all hands were sweetened up. Members then adjourned for a break before the start of the Annual Dinner.

## ANNUAL DINNER

Members congregated in the Sky Ballroom of Federation House from 7 p.m. for sherry and savouries and a get-together while the President and members of Council welcomed our official guests who included:—

Hon. T. L. Anthony, Postmaster General

Mr. J. J. Malone, Chairman, Overseas Telecommunication Commission (Australia).

Professor Bailey, Professor of Experimental Physics, University of Sydney.

Mr. T. Armstrong, Superintendent (Wireless) P.M.G., N.S.W.

Mr. T. Court, President, Institute of Radio Engineers.

Dr. F. Adcock, Inventor of the Adcock Direction-Finding Systems

At 8 p.m. 150 members and guests took their seats for dinner. First toast of the evening was "The King" and was proposed by the President, Jim Corbin. The toast of "The Wireless Institute of Australia" was proposed by Mr. J. J. Malone for many years Chief Radio Inspector and possessing a full and complete knowledge of Amateur Radio. Mr. Malone prefaced his speech by congratulating the Institute on its fortieth anniversary and reminding members that it was a matter for pride that they belonged to the oldest radio organisation in the world. He dealt with the pioneering of short waves by Amateurs in the early days of the science, the national value of the Radio Amateur to the Armed Forces in time of war, their support of the R.A.A.F. Wireless Reserve and their unstinting services to the community during any emergency. Mr. Malone concluded his speech with some humorous references to his dealings with Amateur Radio; one worth recounting was anent the XYL who wrote to him asking that the OM's license be revoked because he was neglecting his home obligations.

Jim Corbin, President, replied to Mr. Malone and said that Amateurs were still pioneering new bands and that the old enthusiasm was still prevalent. Already the Tasman had been bridged on 144 Mc. and Amateurs were constantly endeavouring to reach out further. He reiterated the constant desire of the Radio Amateur to contribute to the well-being of the community and mentioned that it was during the first forty-eight hours of any emergency that the assistance of the Amateur was most

necessary. In conclusion, Jim assured Mr. Malone that when a national call was made, the Radio Amateur would not be found wanting.

The toast of the "Postmaster General's Department" was ably rendered by 2JU, Divisional Councillor and Federal Councillor for this Division, who referred to the honour conferred on the Division by the presence of the Hon. T. L. Anthony, Postmaster General, at our Annual Dinner and ventured the hope that, now he had met us, he would be with us again in the future. John mentioned the cordial relations which had at all times been characteristic in the dealings of the Department with the Institute and recorded the appreciation of the Institute for the able and sympathetic attitude of officers of the Department when confronted with problems affecting the welfare of Amateur Radio.

In reply, the Hon. T. L. Anthony disconcerted members by stating that he was no stranger to radio. He was an operator in the 1914-18 war and mentioned events which transpired when on field operations in the desert with camel transportation. Claiming to know little of current practise, Mr. Anthony had little trouble in gaining the sympathy of the old-timers when he described the vicissitudes of tuning the old rotary spark gaps and the vicious "bites" they were liable to hand out. He referred to the pleasure he experienced that evening in making a personal contact with Radio Amateurs and remarked that he was pleased to see quite a large number of "mature" Amateurs in the gathering. He appealed to all members of the Institute to encourage young men to join our ranks and to adopt radio and television as a career as well as a technical hobby. Television had many applications in the defence field and it was the desire of the authorities that Australia should not be wanting in technicians in this new field of activity. At all times his Department would stand by with assistance and guidance and the Institute could rest assured of sympathetic consideration of any matter submitted.

Mr. Anthony conveyed the thanks of the Government and the Department to the Institute and its members for their outstandingly unselfish work during the Kempsey floods and other emergency operations.

As a diversion between speeches, members were entertained by Will Andrade, the well-known magician, and his equally well-known (though in other channels) assistant, 2OF. Jack submitted willingly to all illusions including that of losing his right hand, but was somewhat upset when, in the course of a trick wherein a paper cover was placed around his tie, the magician lost some of his instructions regarding the operation of the trick and, instead of cutting through the paper, leaving the tie intact, he scissored his way through the tie and left Jack only sufficient "tail" to make up a neat little bow-tie. Understood that Jack is now considering a "Budgie" hair-cut to go with the new bow-tie.

The function concluded shortly after 10 p.m. when a general "ear-bash" automatically came into operation. It was generally agreed that the dinner was a huge success and it would appear that a larger venue may be required next year.

## FIELD DAY

The final effort, winding up the Hamfest, was the Field Day at Lane Cove National Park where about one hundred members and their families attended for an alfresco picnic outing while 2WI went "portable" in the National Field Day Contest. It was the intention of Council that the usual Sunday morning broadcast be made from the park, but technical faults developed in the rig and were not ironed out until 11.30 a.m. so the idea was discarded. In the Field Day operation 2WI succeeded in working all States and New Zealand. Quite a number of the gang arrived at the picnic ground with transmitters and, after getting the hang of things, left for pastures new where they had a reasonable chance of operating without interference from adjacent stations. Judg-

ing from the number of stations operating portable, it would seem that the National Field Day is regaining its popularity in this State and it is hoped that next year will see a still greater list of entries.

As a social gathering the Field Day was a success and rumour has it that our worthy President is already planning for a bigger and better show next year—with sports for the ladies and children. Towards sunset parties drifted away and when the writer left, the sole survivor was 2XU who was only then packing up his transmitter.

The Council desires to place on record its appreciation of the efforts of all members who co-operated so completely by their attendance at all functions and assured the success of the Hamfest.

**The First Shipment is Here for Immediate Delivery!**

## Eddystone "740" Communication Receiver

- Operates from 110 and 220/250 volts, 40/60 cycles AC mains with provision for 6v. external vibrator power supply for mobile/portable use.
- Range—205 metres to 30.6 Mc. in four bands. The first three ranges are directly calibrated in frequency and the fourth in wavelength, to an accuracy better than 0.5%. Range 4 includes the International Distress Frequency.
- Receiver—an eight valve superheterodyne with 450 Kc. permeability tuned I.F. channel:—

V1—EAF42—RF Amplifier.  
V2—ECH42—Frequency Changer.  
V3—EAF42—IF Amplifier and AGC.  
V4—EAF42—AF Amplifier and Detector.  
V5—EL42—Output.  
V6—EAF42—Beat Frequency Oscillator.  
V7—EB41—Noise Limiter and "S" Meter Limiter.  
V8—EZ40—Full Wave Rectifier.  
(All Valves have B8A Bases.)

- Input Impedance—400 ohms.
- Output Impedance—2.5 ohms.
- Provision for External "S" Meter.
- Sensitivity—Better than 10 microvolts for a 15 db signal-to-noise ratio.
- Selectivity—30 db down 10 Kc. off resonance.
- Image Ratio—Better than 15 db at 30 Mc. and correspondingly higher at lower frequencies.

**Price (Less Speaker) £73/15/-**

**EDDYSTONE MODEL "670" — MODEL "750" — MODEL "680"  
AVAILABLE EX STOCK.**

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Established over 80 years.







## "SIMPLICITY IN FOUR"

(Continued from Page 7)

It will be noticed that one position of the frequency switch is marked v.f.o. This position permits the transmitter to be v.f.o. operated on 40 with the 807 as a straight amplifier with a 40 metre Command transmitter as v.f.o.

The input circuit for the v.f.o. connection is not tuned and the resistor in the "high" side of the secondary is used to stop a case of instability in the 807 when the v.f.o. connections were switched in.

In one of these transmitters a second switch was used at the input to the first switch bank so that the v.f.o. drove the quadrupler as a doubler on 20 and a quadrupler on 10 metres.

Of course, an 80 metre v.f.o. can be connected in place of the crystal or a switch used to change from one to the other. Do not tune the secondary of the v.f.o. input transformer to avoid oscillation in the first 6V6.

## POWER SUPPLY

The power supply shown is constructed from receiver type components which are not in short supply. If a higher voltage supply is available, up to say 500 volts, then greater power can be obtained, but it is advisable not to increase the crystal and quadrupler voltage above 350.

If modulation is desired, the secondary of the modulation transformer can be connected as shown. Do not connect it in the common B plus lead, and use a separate power supply for the modulator.

Using a simple aerial and the 350 volt power supply one of these transmitters has worked all States on 40 metre phone with ease.

## COIL DATA

L1—45 turns of No. 26 B. & S. enamelled wire close wound on 1" former and mounted inside aluminium coil can 3" high by 1½" diameter.

L2—13 turns of No. 16 B. & S. enamelled wire 1" diameter and spaced to occupy 2" in length. Self supporting, see text.

L3—3.5 Mc.: 26 turns of No. 20 B. & S. enamelled wire wound on 1½" six pin former to occupy 2" of winding space.

7 Mc.: 14 turns of No. 20 B. & S. enamelled wire wound on 1½" six pin coil former, spaced to occupy 2".

14 Mc.: 9 turns of No. 16 B. & S. enamelled wire, wound on 1½" six pin coil former, spaced to occupy 1½".

28 Mc.: 4½ turns of No. 16 B. & S. enamelled wire, wound on 1½" coil former, spaced to occupy 1½". Coupling link to be determined by trial. See text.

L4—Primary: 6 turns of No. 20 B. & S. enamelled wire, close wound at earthed end of secondary winding. Secondary: 30 turns of No. 26 B. & S. enamelled wire, close wound, coil former 1" diameter. L4 is placed inside an aluminium coil can, 3" high by 1½" diameter.

## FEDERAL

(Continued from Page 14)

- 2MR—J. E. Stewart, Villa Rd., Waratah, Newcastle.  
2PG—J. H. Gore, 12 Pearl St., Newtown.  
2PJ—W. D. Taylor, 14 Forster St., Stockdale.  
2AS—W. J. Storer, 17 Harrington St., Marrickville.  
2ABR—N. G. Rushby, 50 Salisbury Rd., Gullford.  
2ACV—A. G. Mulcahy, 39 Ballast Point Rd., Birchgrove.  
2ACZ—H. C. Edwards, "Sandyways," Myola Rd., Newport Beach.  
2AHH—N. A. Hanson, Ryan Av., W. Kempsey.  
2AKZ—C. D. Bennett, 29 Worrigee St., Nowra.  
2APA—A. F. Ashby, 133 Croydon St., Lakemba.  
2APH—E. A. Hayward, 33 Victoria St., Epping.  
2AQF—J. H. L. Field, Fallinville, Deniliquin.  
2AJC—J. J. Lipscombe, 10 Tingha St., Chatswood.  
2ATA—P. A. Tavares, 14 Glebe St., Edgecliff.  
2AXS—R. R. Smith, Cr. Gipp & Cobra Sts., Dublin.  
2AXY—R. J. Aspery, 126 Charles St., Ryde.

## Victoria

- 3YQ—K. V. Roget, 43 Willow Gr., North Keen.  
3AFH—F. H. Huon, 55A Maitland St., Glen Iris.  
3AFF—H. F. Power, "The Shack," Seventh St., Melbourne.  
3AGW—A. G. Wilkey, 97 Wattletree Rd., Malvern.  
3AIM—R. I. McNabb, Newtown.  
3ARI—R. H. Gordon, A2121 T/Sig. A. and G.R.S. R.A.A.F., Ballarat.  
3AVC—J. E. Keating, 4 Grace St., Moonee Ponds.  
3AXC—R. I. Caporn, 12 Roosevelt Crt., East Brighton.

## Queensland

- 4ET—A. E. Tonge, Cr. Lambert Rd. & Central Av., Indooroopilly.  
4NG—R. H. Greenwood, 12 Bishop St., Rockhampton.  
4HW—H. J. Weatherley, East St., Clifton.  
4XG—F. W. Lewis, Viminal Hill Cres., Seven Hills.

## South Australia

- 5BW—B. C. W. Smith, 27 Jervois St., Torrens-ville.  
5ED—E. D. L. Trehanne, 4 Shannon St., Blair Athol.  
5KF—M. R. Dow, 80 Alexandra St., Prospect.  
5LZ—J. B. Neale, 9 Deacon Av., Marionston.  
5MZ—F. E. Bentley, 20 Neil Rd., Cowandilla, Adelaide.

## Western Australia

- 6RD—H. R. Dowsett, 42 South St., Albany.  
6XE—F. H. Doherty, "Annfield," Keymer St., Belmont.

## Territories

- 1DC—D. J. Cheffins, Heard Island.  
1JK—K. T. Johnson, Heard Island.  
1NL—N. T. Lied, Heard Island.  
1WO—W. H. Oldham, Heard Island.

## South Australia

- 5WD—Cancelled.  
7WN—Cancelled, now operating under VK3AGW.  
7NL—Cancelled, now operating under VK2AQL.  
1PG—Cancelled.  
Territories

## FEDERAL QSL BUREAU

### RAY JONES, VK8RJ, MANAGER

Henri, FRJ, mentions via VK3YL, that he has sent QSLs to over 50 VK2 stations but up to date has not received one card in reply. Stations owing Henri a card are requested to expedite same. Thanks for the greetings Austine. These are heartily reciprocated.

Heard on 14 Mc. c.w. between 1400-1500 GMT 2nd Jan., LX1JL, 151CNQ, 4X4CJ, MP4ABF, SVUAG, Y4ZBP, last named after one QSO with 4X4CJ closed down. Scores of other Europeans were audible at good strengths at same time.

4X4IRE, Box 4099, Tel Aviv, Israel. PK5AA, Radio Station, Balikpapan, Borneo, Indonesia.

Heard Island replacements who left by the "Labuan" recently are: VK1NL, Nils Leld; VK1KJ, Kevin Jamieson; and VK1DC, Dave Chenda. All of these Hams have had extensive tuition at the hands of Leon Paul, VK3XO, and will not answer stations on their own frequency. They propose to use QLM, QHM, etc., extensively in an endeavour to impart long needed discipline to the selfish and ruthless stations. Stations bursting in or calling before a contact is completed will be blacklisted and not answered on that or any succeeding day. Cards for the above stations may be sent to Leon, at 349 Rathmines St., Fairfield, Vic., or to this Bureau. Complete logs will be preserved and all QSLs answered on return to Australia in 1952.

While on the subject of QSLs from Antarctica, if VK1VU has lost his logs or does not intend to QSL, it would be of great advantage if a public statement to this effect was made as overseas and local stations continue to send repeat cards to this Bureau. Letters from this Bureau to the published address in VK of VK1VU have not merited the courtesy of a reply nor have the letters been returned. This seems to indicate that they are being delivered. Some announcement as outlined above would save a lot of your QSL Managers' time and ally a great deal of heartburning amongst overseas stations who continue to clamor for a QSL. The good name of VK Hams is suffering considerably.

The Radio Club of Chile again brings under notice its W.A.C.E. Award. The award is made to any foreign Amateur who has worked one

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station in each of the seven radio districts of Chile. Phone or c.w. contacts made on any Amateur band after 19th November, 1945, will count. The seven cards should be sent to the Radio Club de Chile, Box 761, Santiago, and will be returned by registered mail together with the certificate. No return postage need be enclosed.

It is stated that DLAFS will shortly be heard from Andorra (PX) and will be legit.

Don Dickinson, JAZDD, writes: "As I am going off the air this week after two years in Japan, I would like to have you pass on to the VK fellows my appreciation for all the pleasant contacts they have given me. Practically no day has passed without a contact (52 stations worked). I have gone through my card file and made up these duplicates in hopes that I can receive confirmation from the stations."

No response was received to the par seeking the VK QTH of ex-VK3RA, Ron Garrett, who it is rumored is now in VK. Can anyone supply?

## NEW SOUTH WALES

The usual monthly meeting of the Division was held at Science House on Friday, 22nd December, 1950, being opened at 7.45 p.m. The month's accumulation of correspondence received the usual attention and a number of new members admitted to the membership. Visitors present were given a hearty welcome to the meeting by the President, Mr. J. Corbin 2YC. A discussion on the various agenda items for the 1951 Federal Convention was then proceeded with and finalised to allow the showing of a number of amusing films.

The sympathy of the Division was extended to relatives and friends of the late Bill Cottrell, ex-VK2GN. Bill was extremely well known, being one of the real pioneers in the art. He will be greatly missed by the members and all who knew him.

### WESTERN SUBURBS

20Q is still going strong on 20; has pruned his driven beam to the last degree and is working stuff the local DX men can't raise. 2AYT, nothing heard of Vince lately; how is the ASV on 144 Mc.? 2ABJ has been on 144, 40 and 20, but not on 10 metres as yet; has been working to improve the 20 metre beam of late. 2XHI trying c.w. lately with excellent results. 2ADL must be sticking up the napkins instead of DX,

nothing heard since the arrival of a new junior op. 2MJ and 2AJZ were heard in cahoots regarding the virtues of Port Hacking recently. 2MJ and 2AJZ just can't forget "Bucking Billy," the old steam train out of there. Who could! 2ATL working a few good ones on 20 metre phone. 2WB is heard infrequently but Arch uses his beam to good effects.

### EASTERN SUBURBS

A highlight of the doings around this region has been the receipt of the promised 2AYE QSL card, in which design Dave has done a good job. The theme is fully Australian with aboriginal smoke signals drifting in the balmy air with the letters "CQ" in formation. Wonder if they sign "three by three" Dave? 2CE recently visited Woy Woy to show off a very compact 144 Mc. rig installed in the car. In a demonstration to interested parties, he called CQ and immediately found a taker—just across the road! 2CF has now completed the conversion of an ASV unit for use on 144 Mc.; has also acquired a new commercial RX. 2AHQ doesn't seem to be heard at all these days, but I hear that Ted has been in poor health for some time. The gang in the area send wishes for a speedy recovery OM. 2BC heard pounding the brass with a consistent 599 signal. 2ASE seems to be always up to his eyes in some job or other and this time it has been the programme for this year's North Coast Zone Convention scheduled again for Urunga, I.B. job OM.

2AFZ has hopes of starting a 144 Mc. net in the Bondi-Waverley area (shades of pre-war 5 metres!). Stations known to be interested in 144 Mc. are VKs 2AX, 2AYE, 2TN, and 2FJ. There are doubtless others who would like to be in, but who need time to get gear built. The thought prompts this scribe to remark that it might be a good idea to foster v.h.f. nets as suggested in the editorial in "QST" for December. 2AIG just completed a new modulator and after 15 years or so on the key, has turned to phone operation for a holiday and relaxation; the quality is very good Ray. 2ZQ virtually rocked the gang by appearing on 40 metre phone, ostensibly to hold converse with cobsers in VK3. Back on 20 metre phone with good quality and sometimes a few unwanted little parasites to the low freq. side is 2HIF. Puts in a lot of time checking with 2AZH. This area has a Amateur of note who has not been heard from as yet, but surely not thus for long? He is Dave Medley, now VK2AWM, Bondi, and

latterly 5AE (Darwin) and 3MJ (Melbourne). For the benefit of those who don't know their v.h.f. history it was 3MJ who made the first Interstate QSO on 6 metres with 2NO four years ago.

Visited 2YC, W.I.A. N.S.W. President, and found Jim literally surrounded by a mass of incoming QSL cards replete with pretty pictures; somewhat like the DE cards we used to receive prior to the end of 1939—a kind of lifting of the curtain! The other evening a protracted discussion developed on 40 metre phone in which your reporter found himself in the midst willfully. It was all over a simple question, but albeit one that nobody could give an immediate answer to at the moment. The question was, just which comprised the correct connections for the EP54 valve, otherwise the RL7—a somewhat better performer than the EP50, if that be possible. (See "A.R." Nov., 1946, p.8—Ed.). Seems that somebody had been using a 6 metre converter employing an EP54 with anode and screen connections reversed, and getting results.

That ultimatum in the last issue of zone notes still stands—if you lads won't pass on the "gen" about things then the time will come when the lone pen must lapse. Latest activity at 2NO is the testing of a new experimental Amateur band, Rx which is proving to be something outstanding. With two stages of 110 Kc. i.f. in the final channel the bandpass for phone is just about right, with selectivity such that the dial shows gaps between signals that overlap considerably in the usual channel 455 Kc. i.f. Rx. The crystal controlled converter input provides a revelation in stability and makes life a real joy for the c.w. DX addict. The tuner is a converted Command type Rx with adapted dial giving comfortably wide bandspread but with speedy coverage. Final set-up will cover all the Amateur DX bands.

### NORTH COAST AND TABLELANDS

All roads lead to the Urunga Convention at Easter, March 24, 25 and 26. The Convention promises to be the best yet held in Australia. If you have not yet received a programme and hetrodyne and would like one, contact 2XO. Cine-Sound cameramen will be here to make a news reel. If you have portable gear bring it along and make the newswre! A success. An additional trophy in the form of a cup has been donated by United Radio Distributors, for the Urunga Scramble Contest.



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## SOUTH WESTERN ZONE

Very little news of zone members this month for two reasons—your usual scribe, 3AKR, is away in camp cramming his head full of Army radio procedure, and the zone hook-up on 80 metres was a washout as far as this end was concerned. However, Kevin promised you all some more news of the Mt. Buangor trip this month so here goes.

The results will be well known by now, and we congratulate 3RR and 3CR on their success. The excitement when we heard the 2 metre sigs from VK3 will be long remembered. The party consisted of 3RR, 3CR, 3AKR, 3BV, 3ALC, 3AGD, and associate member Tony Wilson. In four vehicles (necessary to carry all the radio gear, camping equipment, provisions and 813s), we approached the mountain on Saturday evening and after exploring all the tracks, eventually arriving just as it got dark.

By 1000 hours next morning all was ready, then the fun started. The alternator would not take the drain of the big rig, then the 300 ohm ribbon started to give trouble on the beam. While taking it down, unfortunately Ken's head got in the way. However, each problem was attacked with feverish activity and after Kevin and Tony had tinkered with the engine of the alternator and made it play ball, we fixed the beam and started again. This time all was well. The 40 metre link consisted of Type 3 Tx, Eddy-stone "60" Rx, windom ant., and many good contacts were made. We were very pleased to work 3LV portable 40 metres at Henley Beach. All present voted the trip well worth while, and decided to try it again sometime. So now that we have the gear, results next time should be really something to write about.

3IC brushing the dust off an ATS. 3AIC working some DX on c.w. and experimenting with break-in. 3AOL bumped power to 50 watts, also hopes to get on 80 with low power soon. 3AFL on 40 after long silence, has portable rig working very nicely. 3BU modifying TAIBZ, striking out, but has hopes. Bill worked Melbourne on 144 Mc. during the week, with sigs from there coming in like locals. 3ALG has been QRL and had little time for radio the past month. 3VF and 3AKC complain that 2 metres is dead at the moment, but 3BU heard them on the 20th. Nothing known of 3BW. 3ABE and 3AJT still operating on 20, the latter on 19 for a while recently. 3JAGN either busy with bush fire net or re-building.

## GEELONG AMATEUR RADIO CLUB

Members of the above Club met once again on 3rd January for their first meeting for 1951; although only a few members were present due to the fact of quite a few being away on holidays, some very important business was discussed. The night was an open night and the gang had a real chew on their activities. At the next meeting quite a bunch of the chaps turned up including a couple of visitors. The lecturer for the evening was club member, Jack Beckingham, A.M.I.R.E., who lectured on aircraft v.h.f. transmitters including the SCR522 and the TR1143 and gave figures on their performance.

The next club night members organised another transmitter hunt. This is always popular with members so at 8.30 p.m. members set off to see whose loop would direct them to the hidden xmitter first. The xmitter was well hidden and a diff. parallel with the road which made it hard to find. The location was well planned and operated by 3AKE and 3WT who went as far as to put up a decoy antenna. First party to arrive at the location was 3SV, 3ABK, and 3ALG. They, however, were not fooled with the decoy and located the xmitter about 100 yards further on. Second party to arrive were 3AJF, 3AOP, Keith Muller and Peter Cartwright quite some time after the winners.

## NORTH EASTERN ZONE

3AT has new lazy H antenna for 40-20-10, good results on 20. Peter Williams, of Wangaratta, visited 3K. Peter has very high hopes that he passed his Morse test last exam, and is tied up with the intricacies of building stable V.L.O.s and freq. meter. 3KR now sounds like the B.B.C. with chimes coming in on the hour, depending of course whether the inter-com. is switched on or off. Zone Bendix freq. meter in continual use over Henallia way, so much so that I think the writing must be read off the dial. 3APF is on 2 metres.

3ACK yacht making instead of planes. 3XZ leaving for home; Bob has been very inactive lately in the radio field. 3SB visited 3UJ; both Sid and Alan, at Mt. Cooper, made several contacts on 6 and 2 including 3APF, 3AT and 3ALE. 3ALE now has plate modulation, sounds much better than previous so reports indicate. Les also has new rocks ground for 50 Mc. 3APF visited 3DW at Woodend. 3AJO has a Type A Mark III, in pieces. Jack will have to replace

a fractured crystal before we hear him on. 3AT with the help of 3UJ has a radio installed in his car. Now that 3AGC has an XVI, I can't even find him, let alone get a word in edgewise. Don't bite now, Marg. 3JHZ on annual leave.

3YV is back with us again after a sojourn in hospital; the results not too successful, I'm told. 3KR contacting ex-zone member, 3DW, now at Woodend; best wishes from the zone Doug. 3VD in Melbourne. Andy's XVI is still in the parts bin. 3AGT has 6 metre gear about ready to go; Stan has also been fooling around with 28 Mc. gear. 3TP out with 3UJ and 3SD on v.h.f. field day; called in on 3GD on way home. 3PW visited 3YV. 3KR still needing "S" meter in his crystal set. 3ABX now has XYL, how about a QSO with the gang one hook-up Vic? Most shacks were over the 100 degrees mark on hook-up. With all the hot air emitting in the same, is it any wonder. Thanks Howard for your solicitations on my behalf, but in all fairness to 3ALE and 3KR I must say that they supplied the bulk of the notes this month.

## QUEENSLAND

Having lost or mislaid the original notes which were prepared for this column this month, I have had to rush around as quickly as 4RT works the DX to try and compile something to fill the space—fortunately the zone managers and Clare have forwarded plenty of news, so it doesn't really matter what goes in here at the beginning of the Queensland notes. There was such a poor attendance and apparently lack of interest in the election of officers that it was impossible to actually elect those who were nominated for the many posts. However, it was noted that few members other than the usual selection were prepared to shoulder the responsibility when put to the test and paid the honour of being nominated for a position.

For those of you who have so far taken this attitude, you are reminded that it is not only selfish, but is entirely unfair that a few should be obliged to carry your burdens year in and year out. If you have had no previous experience in any of the posts, you should jump at the opportunity to further your knowledge. After all we are only Amateurs anyhow. If we all held the same attitude that you do, the W.I.A., as far as Queensland is concerned, would soon cease to exist and before very long you

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to fear. He was a true Ham if ever there was one.

Was talking to a certain Ham the other day and he said that no matter how careful the members were voting for Council members there would always be a couple of "dillipots" who would get into the Council. This is quite understandable as the Council is elected to be representative of the members, and therefore as there are clever members and "dillipot" members, it is inevitable that some will be re-elected. He looked very hard at me as he said the word "dillipot" but then I could have imagined it.

#### DARWIN AREA

Ted Fuller has now been allotted his call sign of VK3FT. He is now in the R.A.A.F. now on 20. SIM, also of R.A.A.F., has not shown up on the bands yet. 3RA got on twenty before Christmas with a mouthful of 40 metre and a wonderful nightly skeds with 5KO over a period of about a week, his h.t. transformer gave up the ghost. Resumed operations next night with 10 watts, only to lose the feeders again in a big blow. On top of that the modulator developed an obscure fault, relay p.a. transistor burned out, and receiver developed a number of faults.

5AS has at last been persuaded to go on another band besides 10 metre phone for a change, and has opened up on 40 metre c.w. with a co-ax feed dipole. 5GP is building some gear and looks like he might make the grade soon. 5LW is still waiting for his luxury little antenna out at the Qantas hotel, but still seems to work plenty of DX on 10 and 20. 5EM has been temporarily transferred to 40 metre and consequently off the air. We're happy to say that 5BV is completely recovered (well almost) and out of hospital. He has a new 100 watt transmitter he intends keeping for 80, 40 and 20, so we expect to have a lot of competition up here soon. Noel Westmore, the local emergency channels manager of 1950, taking out a ticket I believe. Morrie Olliver, well known local aviator and aircraft engineer up here, is also availing for his ticket.

The 1951 meeting took the form of a social gathering of Hams, members, and their wives and families out at the Ludmilla Hotel in Nightcliff, and a good time was had by all. The business of the meeting was conducted in record time. The classes for 1951 got away to a good start, eight in attendance, and I believe the students of the I.C.P. probably may have stood a chance of passing.

#### WESTERN AUSTRALIA

The first meeting for 1951 took place in the meeting room of the Fremantle Club, with a representative attendance. The evening was very sultry after an oppressive day, and that probably affected, to some extent, the attendance. Apologies were received from 10 who was abed with flu. 6RO acted as Secretary in Wally's absence. The meeting was fully taken up with discussion on a policy matter, and agenda items. Quite a few certificates were presented. W.A.C.s to 6KU, 6DM, 6DJ; D.C.C. to 6SA and 6W; A.S. to 6DW, and finally certificates to 6LA place 6LA (over 1950 R.D. Contest, namely 6RU, 6KW and 6DX. Our hearty congratulations to all those VK6 boys. There were about 15. 6WT and 6HC/WT found conditions very poor and it was a real battle to get QSOs. 6WI had transmitters, and receivers, and a lot of gear, but was down to 2 metres, whilst 6HC/WT took 20, 20 and 2. Gear loaned to 6WT came from 6RU, 6BS, 6BO and 6FW, whilst 6RU, 6KU and 6BO were also present. 6W was also present, and to those VK6s for making 6WT's entry in the N.F.D. possible.

#### PERSONALITIES

6HC and 6WT will be travelling overland to Melbourne and Sydney during January. They intend leaving Perth on Friday the 3rd and are taking their portable gear along that performed well on the 20 metre band. They will operate on 40, 20, 10 and 6 metres, from the one 200 watt transmitter and will be looking for contacts with VK6 stations on the way over and back. Good trip, happy holiday. Dave and Lee 6NL has been holidaying on Garden Island. Val doesn't believe in taking portable gear on holiday, but he says that he is going to get a sound idea. Even left the portable b.e. set at home. Hope the fish liked your bait Val. 6AZ has at last finished his super transmitter,

and was heard trying out 20 the other evening, with a very solid signal. Believe the antenna is only 10 feet high and very temporary, but once Harold is in the air, he will be no holding him. 6WU in Wubin hasn't given the game away apparently, judging from the DX working on 20. 6R is now in the air. How? 6VM is now installed in a new QTH and has a beam on 20. Eric can be heard most evenings on that band with a nice signal. I understand 6PJ will be holidaying down at Esperance shortly and will be on 40 and 20. How do you get down there. How do all you chaps get your vacations in the good old summer time? Darned 6BS is now in the air. How? (6BS is a comparatively new member) has been putting out a very nice signal on 40 and is contemplating operating on the 6 metre band; good idea. 6P in Silera Lake does a good job from a 32 volt plant. Are they going to give you any a.c. when South Fremantle opens OM? 6GA is handling the westland at the moment is enjoying the scenery at Forrest, after a sojourn of two months at Kalgoorlie. Bill has sent for his Typex 3, so we'll be hearing from Bill soon. Hope the broken fingers have mended OK.

6RS has been using his TA12D on 40, both c.w. and phone. Ray and nodes South America for W.A.C. 40 metre c.w. For the present, cathode modulation is being used on the Bendix with quite a lot of success. 6RS is doing a lot of re-building. A new transmitter, modulator and receiver are on the programme, so don't wait have his hands full for a while yet. 6GX has been very quiet lately, but his receiver progressing George? No news from Geraldine lately. How about it 6WZ, what's he looking up there? Trust the news of VK6s made a New Year's resolution to supply their Sub-Editor with items of interest throughout 1951. If you didn't, how about making one now.

#### TASMANIA

The Annual Portable Field Day held during the last week-end in January was a great success as far as this State was concerned. Several parties participated and the results were gratifying, considering conditions which have prevailed of late. Those active were TWI, T5R, and TRX. The club station T5R consisted of 7BR, 7DL, 7LD, 7TL, 7TR, and 7W. The active was TPA who performed the role of cook for the occasion. Two aerials were in use, a long quiet and active, and twenty with separate receiving antennae. Three transmitters were available, two only being used while the other remained a spare in case of break down. Bands were used on 40, 20, 10 and 6. Receivers were available, amongst those were a Philips No. 4 and an Eddystone "750". Counsellors were present, and a list of names of New Zealand, India, etc., which said a lot for the twelve watts used. The location was approximately twelve miles from Hobart, a near-by spot called Penna; the weather was everything one desired.

TRX was located at Rokeby which is on the eastern shore of the Derwent and the party consisted of VKX, TRX, 7LD, 7BR and 7TD. Trouble was experienced in drive for the transmitter which was a three watt unit, and driving into a converted 3BZ transmitter; receiver was an Eddystone "640" powered by a spare 3BZ vibrator supply. Phone only was used and the results were very good. Forty. Trouble in the form of hash from the vibrator supplies was a continual source of worry.

7OM and 7KA operated another station under the call of TWI located at Richmond, but unfortunately the results were not so good today only, even so, quite a good score resulted.

Chief item of business for the February meeting was preparations for the Annual Dinner, together with nominations for the seven Hobart council. A lecture for the evening was given by 7AJ on "Astronomical Telescopes" and their construction by Amateurs. A vote of thanks was given to 7BJ who had been included at 10.30. Members are reminded that a competition will be run in conjunction with the Annual Dinner for the best piece of auxiliary equipment constructed by members. From reports received, the Annual Dinner will be a greater success than ever, so all members are asked to remember the date which is March 3.

#### NORTHERN ZONE

The New Year was off to a grand start with our January meeting, allowing for those fortunate enough to hold their own. Attendance was had at the King's Hall on Friday 12th. At the conclusion of the business an interesting talk about the use of auxiliary equipment used in b.c. station operation. Practical demonstration proved, as of course it always does, the most effective way of dispensing

knowledge and we are grateful to Chris for the opportunity of viewing equipment that he normally keeps behind barred doors. Who could resist the vote of thanks proffered by 7BQ? Shortly after, negotiations were under way to have some of Len's components tested!

Activity still on the low end of the pendulum, one or two spasms of activity, but members have given occasional interest to TLZ, but with the wane of sporadic E, Col has to decide which way to go up or down, in frequency and with conditions on such a low end. We have almost considered DX, it seems to me that the higher frequencies will be the aim, in fact I believe 144 will be the new band to be attacked—at least on that band a beam becomes manageable. 7DB still house building, so not very active, but wonder what the heck it is that keeps DX switched rig; as yet it hasn't melted the solder on my receiver, but still have hopes.

Reading the DX notes in "A.R." I cannot help but wonder what the heck it is that keeps DX signals out of VK7, but doing some steady listening over the last month and carefully perusing QSL's notes for February I have come to the conclusion that we have only heard one thing in common consistently for the month and that is QRN. The first (phone) week-end of the B.E.R.U. Contest seemed to produce little interest here but here's hoping the c.w. week-ends find the bands in better shape.

March meeting once more sees the Annual Council of Officers and, as I warned you last week, please have six-shot arrows at the end of arrows at home. Knuckle-dusters should be quite sufficient—the date is the 9th.

#### CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

#### CORRECTION

[The following letter was received by the Queensland Division of the W.I.A. who have requested same to be published.—Ed.]

No. 1 (B) Squadron R.A.A.F. Tengah, Singapore.

Sir,  
It would be appreciated if you would make a mention in your notes for the next issue of the magazine that VK6 has been in existence quite contrary to what appears on page 9 of the January issue of "A.R." as I have been a member of the magazine for some considerable number of years in the VK3 Division. If it would be of any interest to the magazine "A.R." I will be operating from here very soon with the call sign 7VSDO, and will be looking for VK contacts.

Trusting this small matter can be rectified,  
—L. BAKER

P.S.—Current receipt number 8323 dated 3/4/50 is still held.

#### HAMADS

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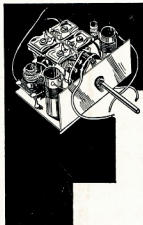
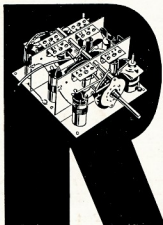
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